

**GUIDED MISSILE AND ASTRONAUTICS INTELLIGENCE COMMITTEE**

9 July 1973

**MEMORANDUM FOR: Chairman, United States Intelligence Board**

**SUBJECT: International Metric System of Units**

1. The Guided Missile and Astronautics Intelligence Committee (GMAIC) has received a query from the UK concerning our views on the adoption of the international metric system of units for intelligence reporting. Based on this query, we have conducted an informal survey of the missile and space components of member agencies. The responses have been generally favorable. Any conservatism in the responses derives almost exclusively from the problems anticipated during the period immediately following a decision to adopt the metric system. There is unanimous agreement among members that the long-range benefits of converting to the metric system far outweigh any temporary difficulties that might occur during the transitional period.

2. Accordingly, GMAIC recommends that USIB take the following course of action:

a. Endorse in principle a policy that would lead eventually to official community-wide use of the metric system of units.

b. Appoint a panel representing the technically oriented elements of the intelligence community. This panel would fully investigate the desirability and impact of converting to the metric system for intelligence reporting, determine the optimum transitional procedure and timing, and identify the elements of the community which would be affected initially.

3. The principle factors which argue for early adoption of the metric system are:

a. All nations on which we produce missile and/or space intelligence use the metric system. There is an inclination on the part of the designers of programs and systems to "round-off" when there is no reason dictating otherwise. Thus, a Soviet requirement to develop a missile capable of delivering a 3000 kg warhead to 3000 km would, in the English system, be carried as 6620 lbs and 1620 nm--or rounded-off to 6600 lbs and 1600 nm respectively.

b. All nations with whom the US has made intelligence exchange agreements have converted or are committed to metric conversion as a matter of national policy. These include

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c. Already, much of the technical analyses of systems within the intelligence community is performed metrically--and reported out after conversion to the English system of units. All NATO work is in metric units. NASA has implemented extensive use of the system and endorses the full conversion to metric measurement. The US scientific community, almost without exception, uses the International System of Units which includes the metric system of weights and measures.

d. There has been considerable movement toward metrication in the US Congress beginning in 1968 with the enactment of Public Law 90-472, otherwise known as the Metric Study Act. This Act directed the Secretary of Commerce to provide for a broad inquiry and evaluation concerning use of the metric system of measurement. Responsibility for the conduct of the study was delegated to the National Bureau of Standards. Based on this study, the Secretary of Commerce in July 1971 endorsed US conversion to the metric system. At this time there are some dozen or so Bills under consideration to establish a national policy for converting to the metric system in the United States. One of these could be enacted during the present Congress. Most call for a ten-year period in which the US would convert predominantly but not exclusively to the International Metric System.

4. Some difficulties would inevitably arise during the process of conversion. We believe, however, they would be relatively short-lived (several years) and fully within the community's ability to cope--given the willingness to accept temporary inconvenience. Since we are talking only about intelligence reporting vis-a-vis the manufacture of hardware, international trade, etc., in other sectors of the economy, our problems would be miniscule in comparison.


5. Of the several anticipated problems that we have examined, the re-education of consumers to "think metric" dominates all others. There is a normal inclination to resist change when one is comfortable in a given situation--and especially, as in the present case, when the long-term benefit is not strikingly apparent. In this connection, the use initially of dual entries for metric and English values, e.g., 1500 kgs (3300 lbs), would ease the mental burden, but at the risk of becoming a crutch. This is an individual problem, however. The recent experience of NPIC tends to argue against use of the metric system. For about two years, dual values were reported in all publications. Apparently, the lack of consumer enthusiasm resulted in the return to English unit reporting only, even though measurements are made in metric units. The absence of an official community-wide policy might well account for the "failure" of this experiment.

6. Two other problems of considerably less consequence that would occur during the transitional period are:

a. The time required to perform the conversion of units and incorporate them into documents in both metric and English units. Where considerable data is involved, the appearance of a busy paper could result.

b. Computer programs would require changes to some functions and routines.

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R. E. HINEMAN  
Chairman

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6.b. Appointment of New Chairmen to the SIGINT Committee  
and Guided Missile and Astronautics Intelligence Committee

STAT           The Chairman proposed and the Board endorsed the appointment of [ ] as Chairman, SIGINT Committee and Richard E. Hineman as Chairman, Guided Missile and Astronautics Intelligence Committee.